



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/599,034	09/18/2006	Kazuhiko Katsumata	ASAIN0188	3283
24203	7590	03/11/2008		
GRIFFIN & SZIPL, PC SUITE PH-1 2300 NINTH STREET, SOUTH ARLINGTON, VA 22204			EXAMINER WILSON, GREGORY A	
			ART UNIT	PAPER NUMBER
			3749	
			MAIL DATE	DELIVERY MODE
			03/11/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/599,034	Applicant(s) KATSUMATA, KAZUHIKO	
	Examiner Gregory A. Wilson	Art Unit 3749	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 September 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/11/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, a plurality of free rollers disposed within the heating and cooling chambers, respectively, and for supporting the object at only both ends in a direction of width must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, lines 12-15, the applicant discloses that with regard to the transfer unit, “a plurality of free rollers disposed within the heating and cooling chambers, respectively, and for supporting the object at only both ends in a direction of width thereof to be movable in a transferring direction;”. It is unclear as to what the applicant regards as “at only both ends” and appears to be possibly interpreted as both ends of the object, both ends of the rollers in the width direction, or both ends of the furnace (heating end and cooling end).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1, 2, and 5-8 are **rejected** under 35 U.S.C. 102(b) as being anticipated by Peter et al (5,052,923). Peter et al discloses a furnace (102) which includes a hermetically

Art Unit: 3749

closable cooling furnace (134) enclosing a cooling chamber and arranged for cooling an object after being subjected to heating, a hermetically closable heating furnace (133) incorporating a heating chamber disposed at a position adjacent to the cooling chamber and arranged for heating the object (30), the heating chamber having a front door (135) for introducing the object into the heating chamber and a rear door for closing an opening provided for permitting the object to be moved, a carrying-in/out door (135') for heating furnace, which is disposed on a side opposite to the side on which the cooling chamber is disposed and is arranged for performing carrying-in of or carrying-out of the object, a transfer unit (6) arranged for transferring the object between the heating chamber and the cooling chamber and includes a plurality of free rollers (SEE Figure 1) disposed within both heating and cooling chambers, respectively, and for supporting the object at only both ends in a direction of width thereof to be movable in a transferring direction, a mounting bed (119) for mounting thereon the object to be horizontally movable back and forth, a heater (17) arranged for heating the object, a push-pull member (31) having an engaging member capable of turning up to a higher position thereof where it is engaged with the object to push and pull the object (SEE column 4, lines 44-59), a drive unit (unnumbered, SEE Figure 2) arranged at a position adjacent to the heating chamber on a side opposite to a side on which the cooling chamber is disposed and capable of driving the push-pull device, and a gas cooling device (138) which cools and circulates a gas passing through the heating furnace; the furnace may also be in the form of a vacuum oven (SEE Abstract) of which an interior is exhausted to at vacuum.

Claim 8 is rejected under 35 U.S.C. 102(b) as being anticipated by **Banno et al (4,518,353)**. **Banno et al** discloses a heat treating furnace (1) having a cooling furnace (15, 27) for cooling an object, a heat furnace (2) and a transfer unit (57) for transferring the object between the cooling furnace and heating furnace wherein the transfer unit, the heating furnace and the cooling furnace are arranged in order (SEE Figure 1).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Mori (6,530,780) in view of Harrison (2,731,127)**. Mori discloses the applicants primary inventive concept including a heat-treating furnace(SEE Figure 4) having a hermetically closable cooling furnace (39) incorporating therein a cooling chamber and arranged for cooling an object after being subjected to heating, a hermetically closable heating furnace (25) incorporating therein a heating chamber disposed at a position adjacent to the cooling chamber and arranged for heating the object, and a transfer unit (35) arranged for transferring the object between the heating chamber and the cooling chamber and includes a plurality of free rollers (32) disposed within the heating and cooling chambers for supporting the object at only both ends in a direction of

Art Unit: 3749

width thereof to be movable in a transferring direction, a push-pull member (35, 35a, 35b) capable of moving while being engaged (SEE Figures 7 & 8) with the object thereby pushing or pulling the object. Mori does not specifically teach a drive unit positioned adjacent the heating chamber, however, Harrison teaches that it is well known in the art to use a conveyor transfer mechanism as a drive unit for the purpose of transferring loads in a continuous system. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains to have modified the transfer unit of Mori to include the conveyor transfer mechanism as taught by Harrison for the purpose of driving the push-pull device to move an object into and out of the heating and cooling chambers.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory A. Wilson whose telephone number is (571)272-4882. The examiner can normally be reached on 7 am - 4:30 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve McAllister can be reached on (571) 272-6785. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3749

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Gregory A. Wilson/
Primary Examiner, Art Unit 3749
February 27, 2008